The Smarter Balanced Assessment System

Assessment Essentials for Classroom Practice

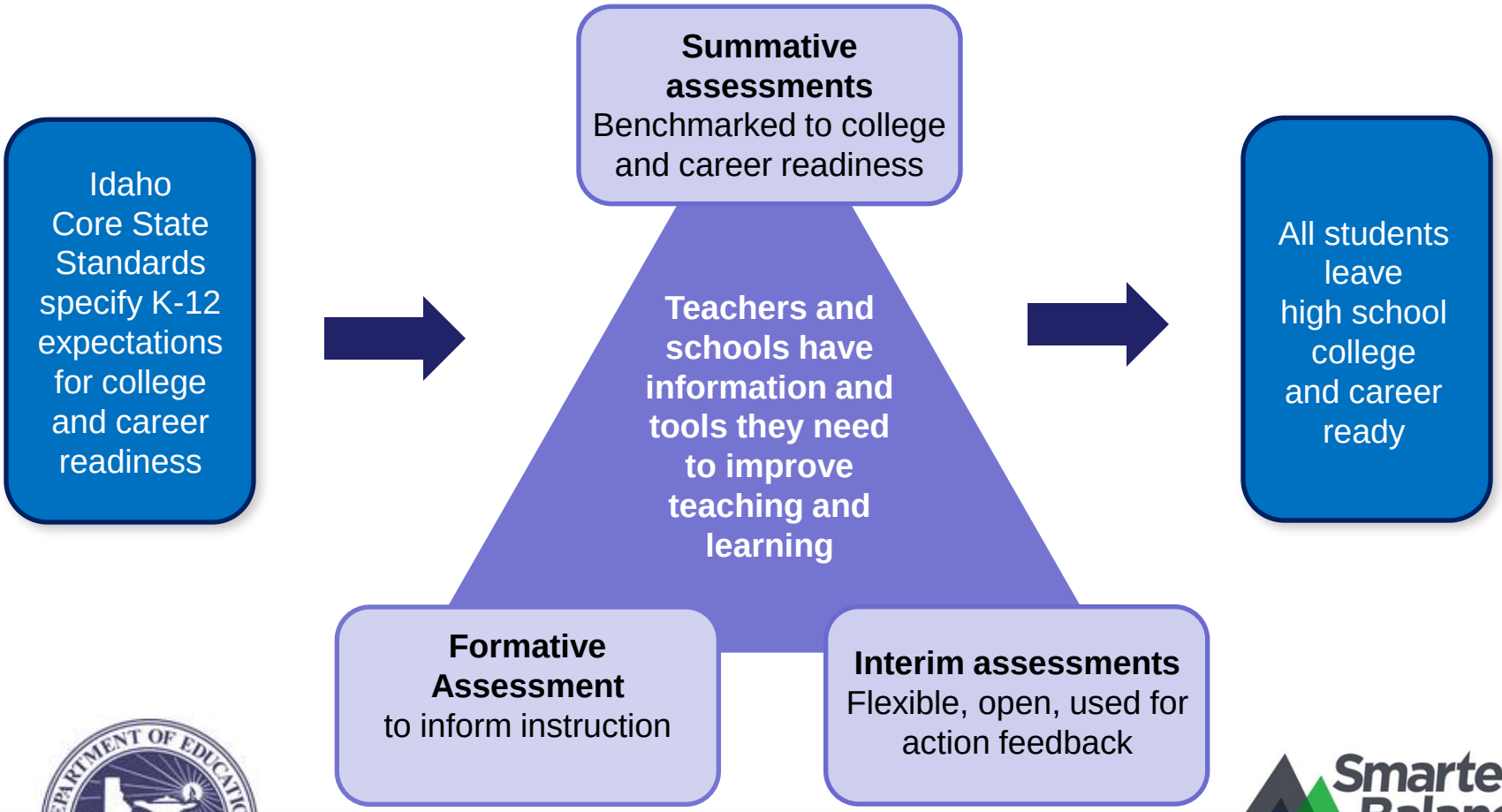
Angela Hemingway

representing

Nancy Thomas Price

Smarter Balanced Assessment Consortium

A Balanced Assessment System



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Smarter Balanced
Assessment Consortium

Smarter Balanced Assessment

1. Design of the Smarter Balanced Assessment System
2. Formative Assessment
3. Interim Assessment
4. How Schoolnet supports Smarter Balanced Assessment

Smarter Balanced Design

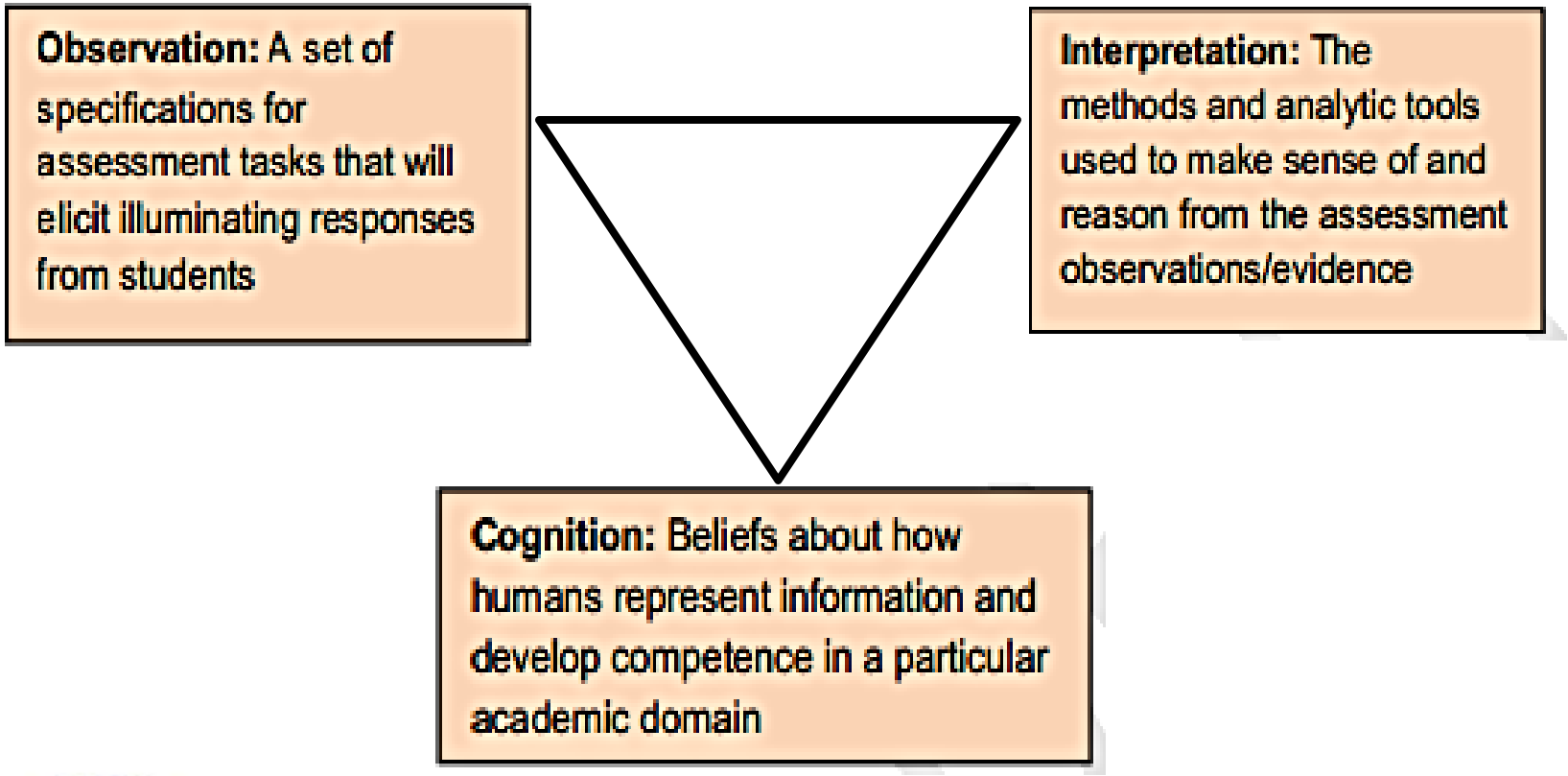
Evidence Centered Design

An understanding of the Core Standards through the assessment lens.

Informs classroom instruction by giving teachers feedback about their teaching and students' understanding.

Evidence-Centered Design

The Assessment Triangle as Represented in the Content Specifications (pp. 14-15)

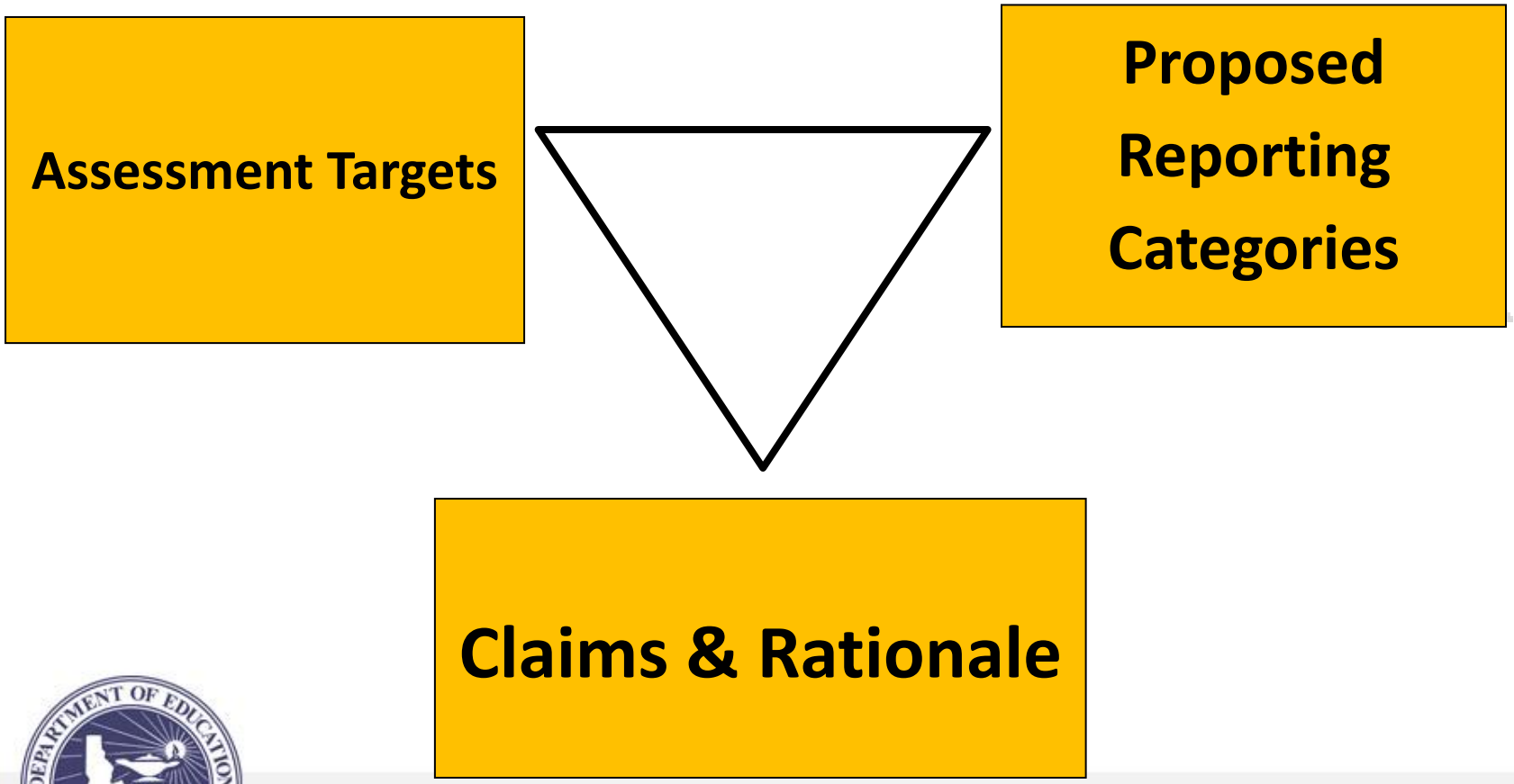


SBAC Content Specifications Math March 2012 p. 15
The Assessment Triangle, NRC 2001 p. 44

The Assessment Triangle (NRC, 2001)

Evidence Centered Design

The Assessment Triangle as Represented in the Content Specifications (pp. 14-15)



The Assessment Triangle (NRC, 2001)

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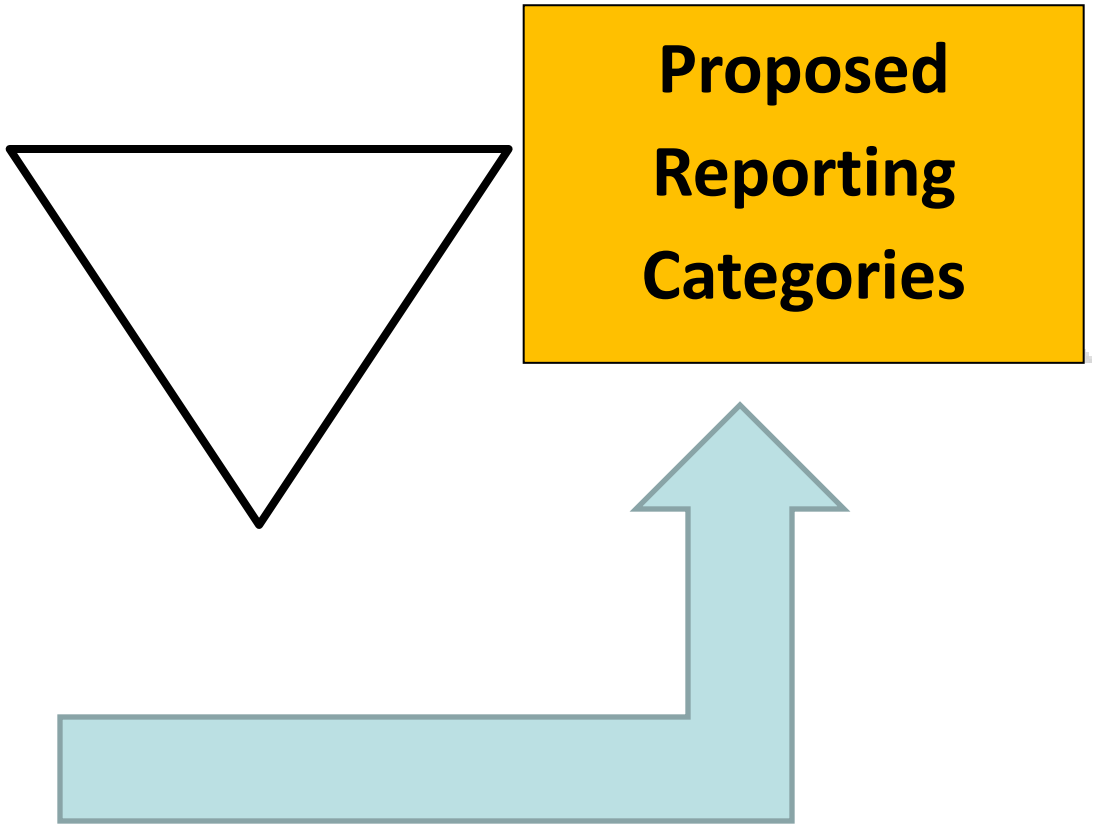


The Assessment Triangle (NRC, 2001)

Achievement Level Descriptors

GRADE 3

OVERALL CLAIM: Students can demonstrate progress toward college and career readiness in mathematics.	***POLICY ALD: The Level 1 student demonstrates minimal understanding of and ability to apply the mathematics knowledge and skills needed for success in college and careers, as specified in the Common Core State Standards.***	***POLICY ALD: The Level 2 student demonstrates partial understanding of and ability to apply the mathematics knowledge and skills needed for success in college and careers, as specified in the Common Core State Standards.***	***POLICY ALD: The Level 3 student demonstrates adequate understanding of and ability to apply the mathematics knowledge and skills needed for success in college and careers, as specified in the Common Core State Standards.***	***POLICY ALD: The Level 4 student demonstrates thorough understanding of and ability to apply the mathematics knowledge and skills needed for success in college and careers, as specified in the Common Core State Standards.***
CLAIM 1: Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.	***CONTENT ALD: The Level 1 student can minimally explain and in a minimal way apply mathematical concepts. The Level 1 student interprets and carries out mathematical procedures with minimal precision and fluency.***	***CONTENT ALD: The Level 2 student can partially explain and partially apply mathematical concepts. The Level 2 student interprets and carries out mathematical procedures with partial precision and fluency.***	***CONTENT ALD: The Level 3 student can adequately explain and adequately apply mathematical concepts. The Level 3 student interprets and carries out mathematical procedures with adequate precision and fluency.***	***CONTENT ALD: The Level 4 student can thoroughly explain and accurately apply mathematical concepts. The Level 4 student interprets and carries out mathematical procedures with high precision and fluency.***
Concepts and Procedures: Domain #1				
Operations and Algebraic Thinking				
RANGE ALD **Target A:** Represent and solve problems involving multiplication and division.	Level 1 students should be able to represent multiplication and division problems within 100 involving equal groups of objects.	Level 2 students should be able to use multiplication and division within 100 to solve one-step problems using arrays, to interpret the meaning of multiplication of two whole numbers, and to determine the unknown number in a multiplication equation relating three whole numbers.	Level 3 students should be able to select the appropriate operation (multiplication or division) within 100 to solve one-step problems involving measurement quantities of single-digit whole numbers and determine the unknown number in a division equation relating three whole numbers. They should be able to interpret the meaning of whole number quotients of whole numbers.	Level 4 students should be able to use multiplication and division within 100 to solve one-step problems involving measurement quantities.
RANGE ALD **Target B:** Understand properties of multiplication and the relation multiplicati		Level 2 students should be able to apply the commutative property of multiplication to mathematical problems with one-digit factors.	Level 3 students should be able to apply the commutative and associative multiplication and the distrib They should be able to under between multiplication and d unknown factor problem.	Level 4 students should be able to ding tive the on
RANGE ALD **Target C:** M within 100	ble to 1, 2,	Level 2 students should be able to to recall from memory all products of two one-digit numbers.	Level 3 students should be a strategies to fluently multiply and recognize division as an	to ply exts.
RANGE ALD **Target D:** Solve problems involving the four operations and identify and explain patterns in arithmetic.	ble to represent and solve one-step problems using addition and subtraction within 100 and multiplication and division within the 10 by 10 multiplication table.	Level 2 students should be able to solve two-step problems using addition and subtraction with numbers larger than 100 and solutions within 1,000; assess the reasonableness of an answer; and identify patterns in the addition table.	Level 3 students should be a problems using multiplicatio 10 by 10 multiplication table represent the problem using symbol to represent an unkn also be able to explain patter table.	to to uding

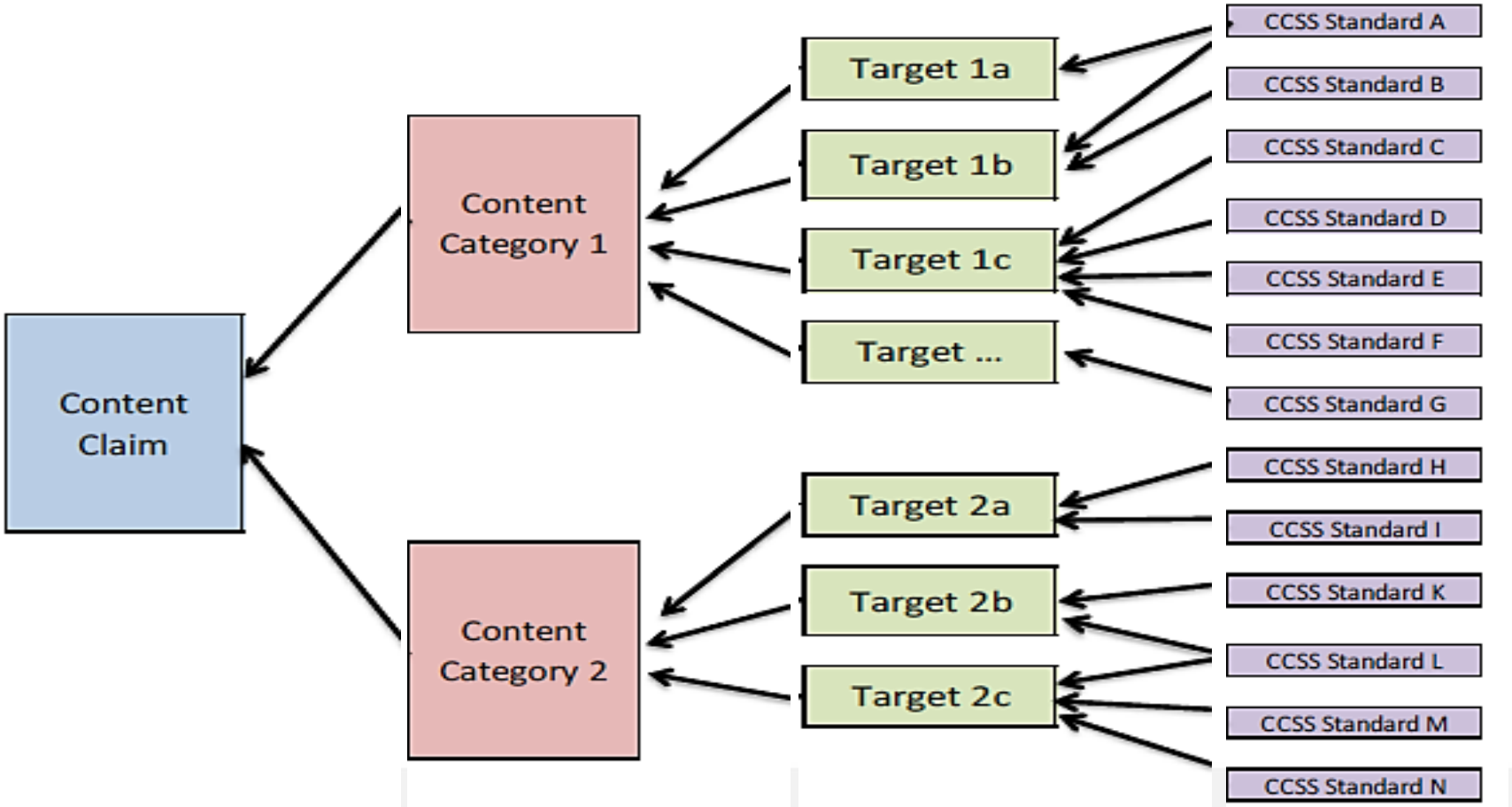
Target C
Multiply and divide within 100

Level 4 students should be able to use relevant procedures to multiply or divide in a wide range of situations.

Smarter Balanced Design

Claims are the broad statements of the assessment system's learning outcomes, each of which requires…***evidence***
that articulates the types of data/observations that will support interpretations of competence towards achievement of the claims.
Interpretations of the observable evidence are spelled out in the Achievement Level Descriptors.

Relationship among Content Claims, Content Categories, Assessment Targets, and Standards (p.8 ALD Document)



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Assessment Claims

Math Assessment Claims

Claim #1: Concepts & Procedures
Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.

Claim #2: Problem Solving
Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem solving strategies.

Claim #3: Communicating Reasoning
Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.

Claim #4: Modeling and Data Analysis
Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.

Retrieved from Smarter Balanced Assessment Consortium located at http://www.smarterbalanced.org/smarter-balanced-assessments/

ELA Assessment Claims

Claim #1

Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts.

Claim #2

Students can produce effective and well-grounded writing for a range of purposes and audiences.

Claim #3

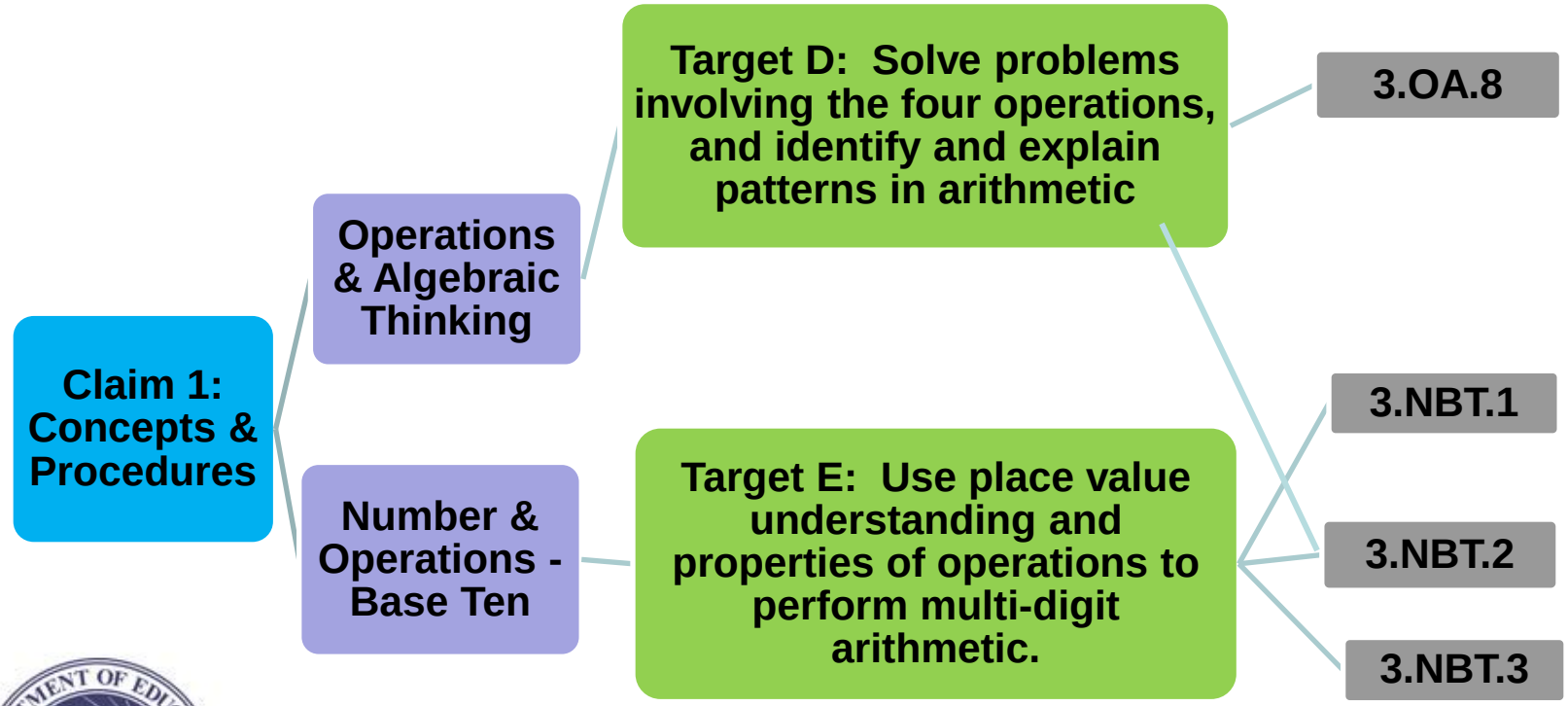
Students can employ effective speaking and listening skills for a range of purposes and audiences.

Claim #4

Students can engage in research/inquiry to investigate topics, and to analyze, integrate, and present information.

CLAIM 1 – Grade 3: Content Categories, Assessment Targets, and Standards

Assessment Targets



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Depth of Knowledge

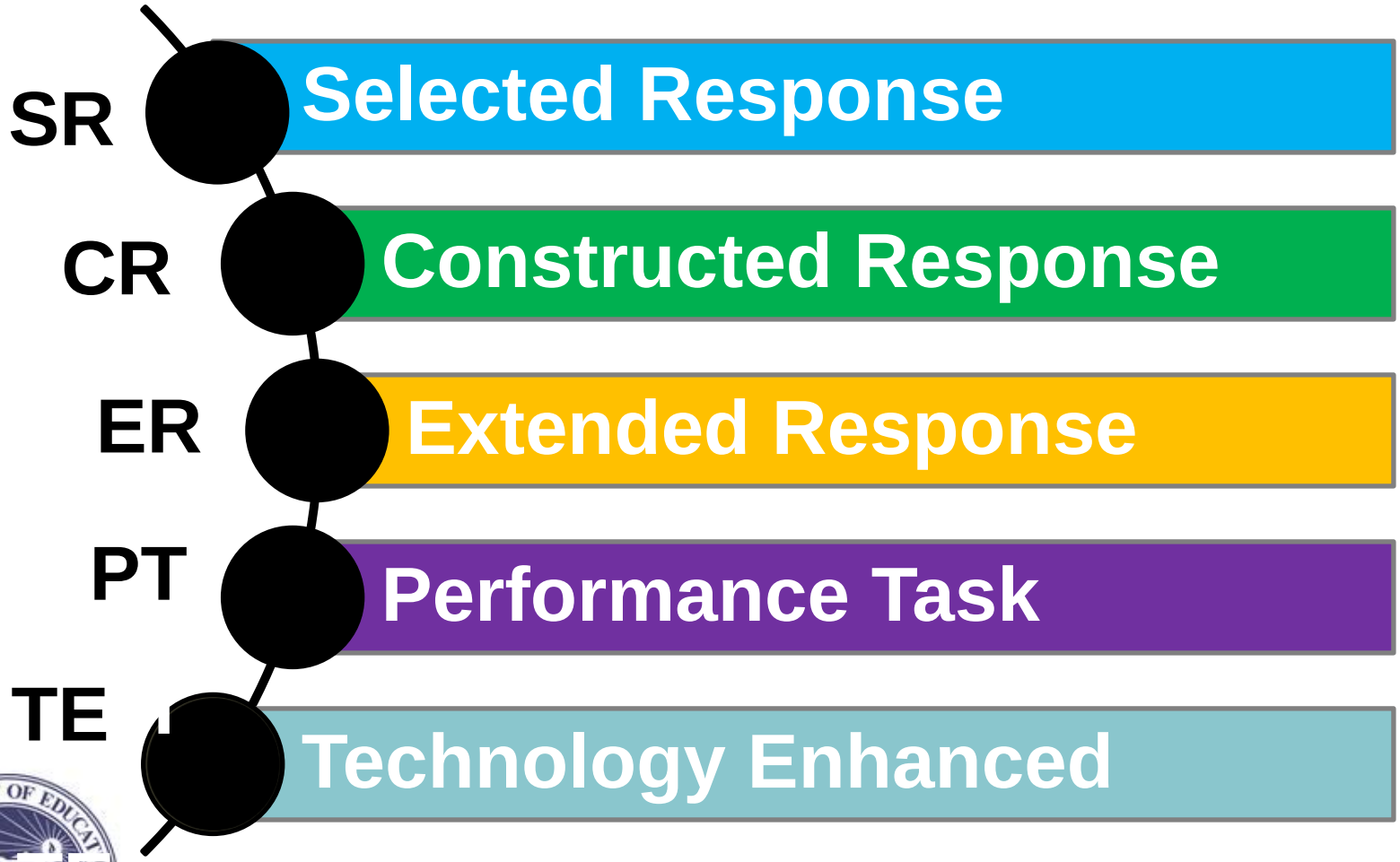
DOK 1	DOK 2	DOK 3	DOK 4
Recall and Reproduction	Basic Skills and Concepts	Strategic Thinking/ Reasoning	Extended thinking, DEEP Knowledge

Informing classroom instruction- Cognitive Rigor Matrix

A "Snapshot" of the Cognitive Rigor Matrix (Hess, Carlock, Jones, & Walkup, 2009

	Depth of Thinking (Webb)			
+ Type of Thinking (Revised Bloom)	DOK Level 1 Recall & Reproduction	DOK Level 2 Basic Skills & Concepts	DOK Level 3 Strategic Thinking & Reasoning	DOK Level 4 Extended Thinking
Remember	-Recall conversions, terms, facts			
Understand	-Evaluate an expression -Locate points on a grid or number on number line -Solve a one-step problem -Represent math relationships in words, pictures, or symbols	- Specify, explain relationships -Make basic inferences or logical predictions from data/observations -Use models /diagrams to explain concepts -Make and explain estimates	-Use concepts to solve non-routine problems -Use supporting evidence to justify conjectures, generalize, or connect ideas -Explain reasoning when more than one response is possible -Explain phenomena in terms of concepts	-Relate mathematical concepts to other content areas, other domains -Develop generalizations of the results obtained and the strategies used and apply them to new problem situations
Apply	-Follow simple procedures -Calculate, measure, apply a rule (e.g., rounding) -Apply algorithm or formula -Solve linear equations -Make conversions	-Select a procedure and perform it -Solve routine problem applying multiple concepts or decision points -Retrieve information to solve a problem -Translate between representations	-Design investigation for a specific purpose or research question - Use reasoning, planning, and supporting evidence -Translate between problem & symbolic notation when not a direct translation	-Initiate, design, and conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results
Analyze	-Retrieve information from a table or graph to answer a question -Identify a pattern/trend	-Categorize data, figures -Organize, order data -Select appropriate graph and organize & display data -Interpret data from a simple graph -Extend a pattern	-Compare information within or across data sets or texts -Analyze and draw conclusions from data, citing evidence -Generalize a pattern -Interpret data from complex graph	-Analyze multiple sources of evidence or data sets
Evaluate			-Cite evidence and develop a logical argument -Compare/contrast solution methods -Verify reasonableness	-Apply understanding in a novel way, provide argument or justification for the new application
Create	- Brainstorm ideas, concepts, problems, or perspectives related to a topic or concept	-Generate conjectures or hypotheses based on observations or prior knowledge and experience	-Develop an alternative solution -Synthesize information within one data set	-Synthesize information across multiple sources or data sets -Design a model to inform and solve a practical or abstract situation

Item Types


SR
Selected Response
CR
Constructed Response
ER
Extended Response
PT
Performance Task
TE
Technology Enhanced

Collect data that informs classroom practices: Implications for Instruction

Existing Test Item or Classroom Task:
Identify Idaho content standards and the Assessment Claim.

Does it align to the identified standards and relate to one of the claims?
If not, modify…

Find the corresponding assessment target(s) Does the evidence descriptor from the assessment target(s) match your question or task?
Make adjustments, if needed.

Find the corresponding Depth of Knowledge. What is the cognitive process and demand required of the students? Cognitive Rigor Matrix: Identify the DOK level aligned to the task. Make adjustments if needed

Is your method, i.e. item type or task the best way to elicit evidence of student understanding to get at the desired outcome of student performance?
Make adjustments, if needed.

Understanding the Item Specifications

Grade 6 Mathematics Sample SR Item C1 TA

MAT.06.SR.1.000RP.A.181 C1 TA

Sample Item ID:	MAT.06.SR.1.000RP.A.181
Grade:	06
Claim(s):	**Claim 1: Concepts and Proc** Students can explain and apply carry out mathematical proced fluency.
Assessment Target(s):	1 A: Understand ratio concepts solve problems.
Content Domain:	Ratios and Proportional Relatio
Standard(s):	6.RP.3
Mathematical Practice(s):	1, 2
DOK:	2
Item Type:	SR
Score Points:	1
Difficulty:	M
Key:	D
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	

1. Content & Grade
2. Type of Question
   a. SR – Selected Response
3. Claim
4. Domain : RP – Ratios and Proportional Relationships
5. Assessment Target for Grade Level – Target A
6. Internal Number - 181
7. Claim – C1, C2, C3, or C4 & Target

Understanding the Item Specifications

"Claims are the broad statements of the assessment system's learning outcomes, each of which requires evidence that articulates the types of data/observations that will support interpretations of competence towards achievement of the claims." p. 18 – Content Specifications

Sample SR Item C1 TA

P.A.181 C1 TA

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e:	06
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):	1 A: Understand ratio concepts and use ratio reasoning to solve problems.
n:	Ratios and Proportional Relationships
):	6.RP.3
r:	1, 2
C:	2
e:	SR
s:	1
y:	M
Key:	D
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	

Understanding the Item Specifications

Assessment Target
"Cluster level headings of the standards in the CCSS-M are used in order to allow for the creation and use of assessment tasks that require proficiency in a broad range of content and practices. Use of more fine-grained descriptions would risk a tendency to atomize the content, which might lead to assessments that would not meet the intent of the standards." Content Specs., p. 20

Grade

MAT.

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Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	

Standard(s)
Defines what students should understand and be able to do

Understanding the Item Specifications

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Score Points:	1
Difficulty:	M
Key:	D
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	

Depth of Knowledge
The cognitive rigor that a student needs to bring to the item/task, as determined by the Cognitive Rigor Matrix, Math Content Specifications, Appendix C, p. 92

Smarter Balanced Design

Content Specifications and Item Specifications

- **Content Specifications** create a bridge between standards, assessment and instruction.
- They organize the standards around major constructs and big ideas
- Further describe what students should learn and be able to demonstrate as a result of their learning.

    - **Item specifications**: Information provided for each item included on the assessment that shows how that item represents the specified content.

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Important Documents

- Content Specifications
- Item Specifications
- Achievement Level Descriptors

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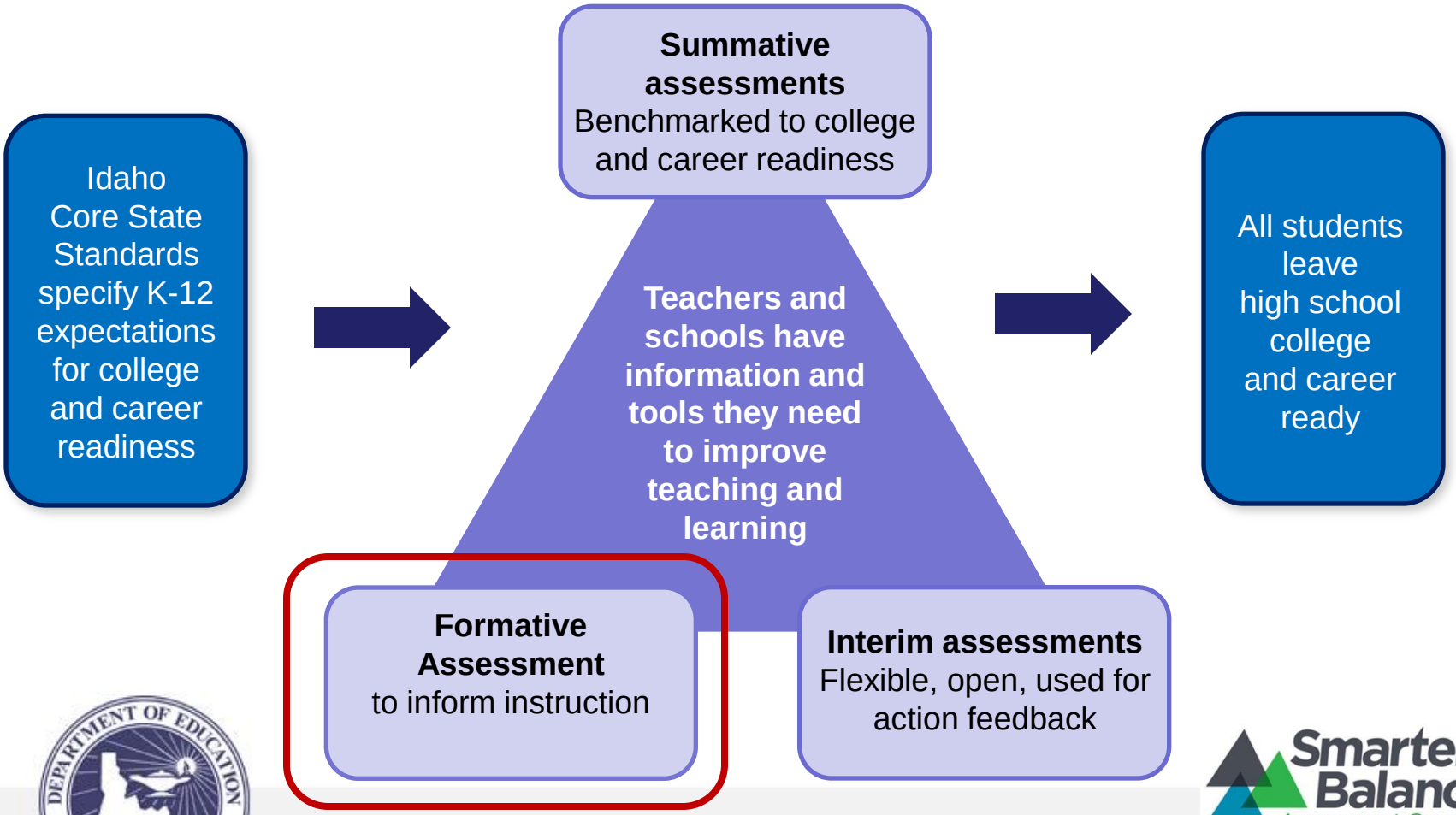
A Balanced Assessment System: Formative Assessment



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2.Formative Assessment Process

Definition and Attributes

Formative assessment is a deliberate ***process*** used by teachers and students ***during instruction*** that provides actionable feedback that is used to adjust ongoing teaching and learning strategies to improve students' self-assessment, reflection and attainment of curricular learning targets/goals.

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Formative Assessment Process

Critical Nature

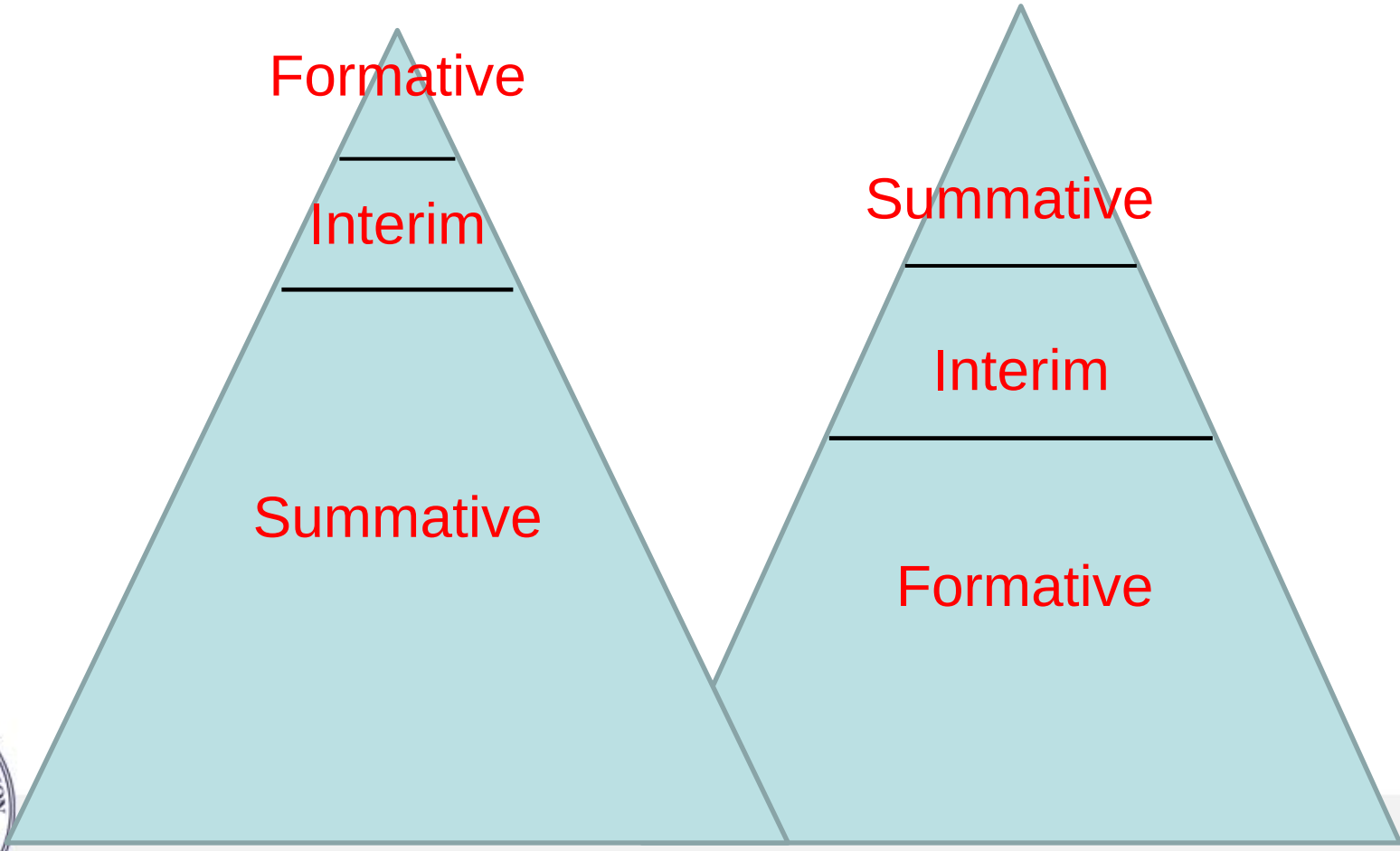
- Students need a “risk-free” way to check their own learning
- Students need to be able to articulate what they understand and do not understand.

21st Century Skills: Being self – directed learners

- Teachers need data that reflect if they successfully meeting the intended learning outcomes.

Formative Assessment Process

Critical Nature



Formative Assessment Process

Digital Library

Assessment Literacy Modules

- Commissioned Professional Learning Modules
- Resources for educators, students and families

- Frame Formative Assessment within a Balanced Assessment System
- Articulate the Formative Assessment Process
- Highlight Formative Assessment Practices and Tools

Exemplar Instructional Modules

- Commissioned Professional Learning Modules
- Instructional coaching for educators
- Instructional materials for students

- Demonstrate/support effective implementation of the formative assessment process
- Focus on key content and practice from the Common Core State Standards for Mathematics and English Language Arts

Education Resources

- High-quality vetted instructional resources and tools for educators
- High-quality vetted resources and tools for students and families

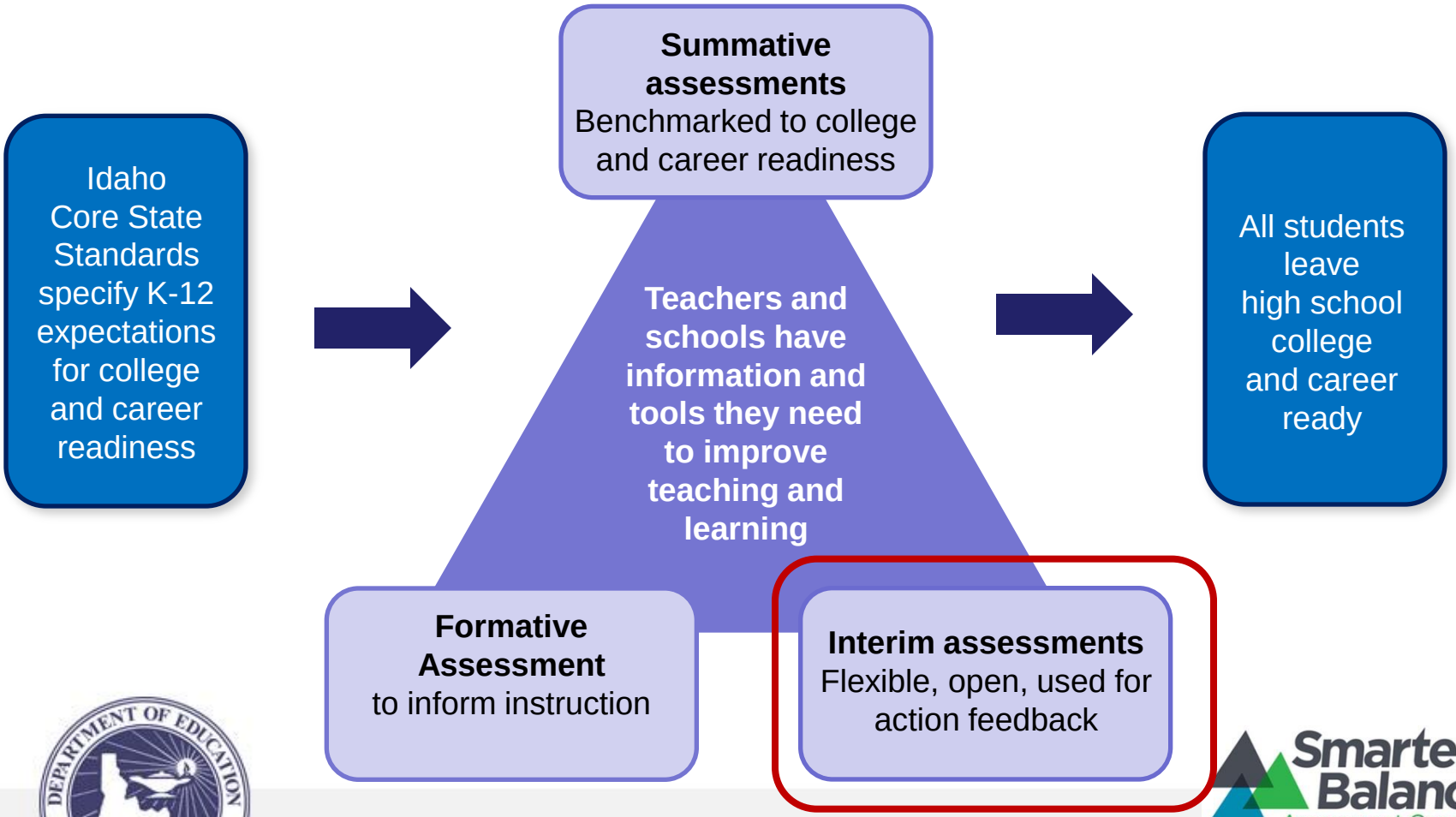
- Reflect and support the formative assessment process
- Reflect and support the Core Standards for Mathematics and English Language Arts
- Create Professional Learning Communities

Formative Assessment

Professional Development, Resources and Support

- Idaho Formative Assessment Program Project
- Discovery Education Module 5
- Power of Assessment Webinar Series
  www.sde.idaho.gov/formativeInterim
- Classroom Assessment Group on Edmodo
- Best Practices in Classroom Assessment
- Assessment Monitoring Tool

A Balanced Assessment System: Interim Assessments



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3. Interim Assessment

- **EVENT administered outside of instruction**
- **EVALUATES students' knowledge and skills relative to goals within a specific time frame**
- **INFORMS educator decisions at the student, classroom, school, or district levels**
- **RESULTS aggregated by students, incidence, concepts**
- **ADMINISTERED generally 2-6 times per year**
- **TIMING controlled by school or district**
- **RESULTS reported medium cycle**
- **ALIGNED to standards**
- **DESIGNS driven by the purpose & intended use**

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Smarter Balanced Interim Assessment

Design Principles

- **Same platform, same item types as summative assessment**
- **Adaptive as available – gradual phase in**
- **No security expectations**
- **Hand scoring by districts**
- **Appropriate for administration at various points in the year.**
- **Same /similar reporting features**
- **Not to be used for school accountability**

Smarter Balanced Interim Assessment

Design Principles

Interim Comprehensive Assessment **(ICA)**

- Clone
- Non-secure items
- Same/similar functionality

Interim Assessment Blocks **(IAB)**

- Collections of items from blocks of specific standards
- Proposed 12 blocks for ELA
- Proposed 4-5 for Math 3-8
- Proposed 12 between Algebra / Functions and Geometry

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Smarter Balanced Interim Assessment

Roll Out

- **Late fall 2014**
- **Phase in of adaptive features**
- **Dependent on number of available items**
- **Additional options and flexibility**

4. Schoolnet Assessment

How does the Schoolnet assessment module support the Smarter Balanced Assessment System?

Schoolnet Assessment

Item Types

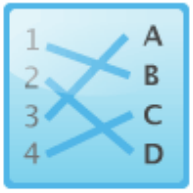
Multiple Choice

True/False

Gridded

Open Response

Inline Response



Matching

Hot Spot - Single Selection

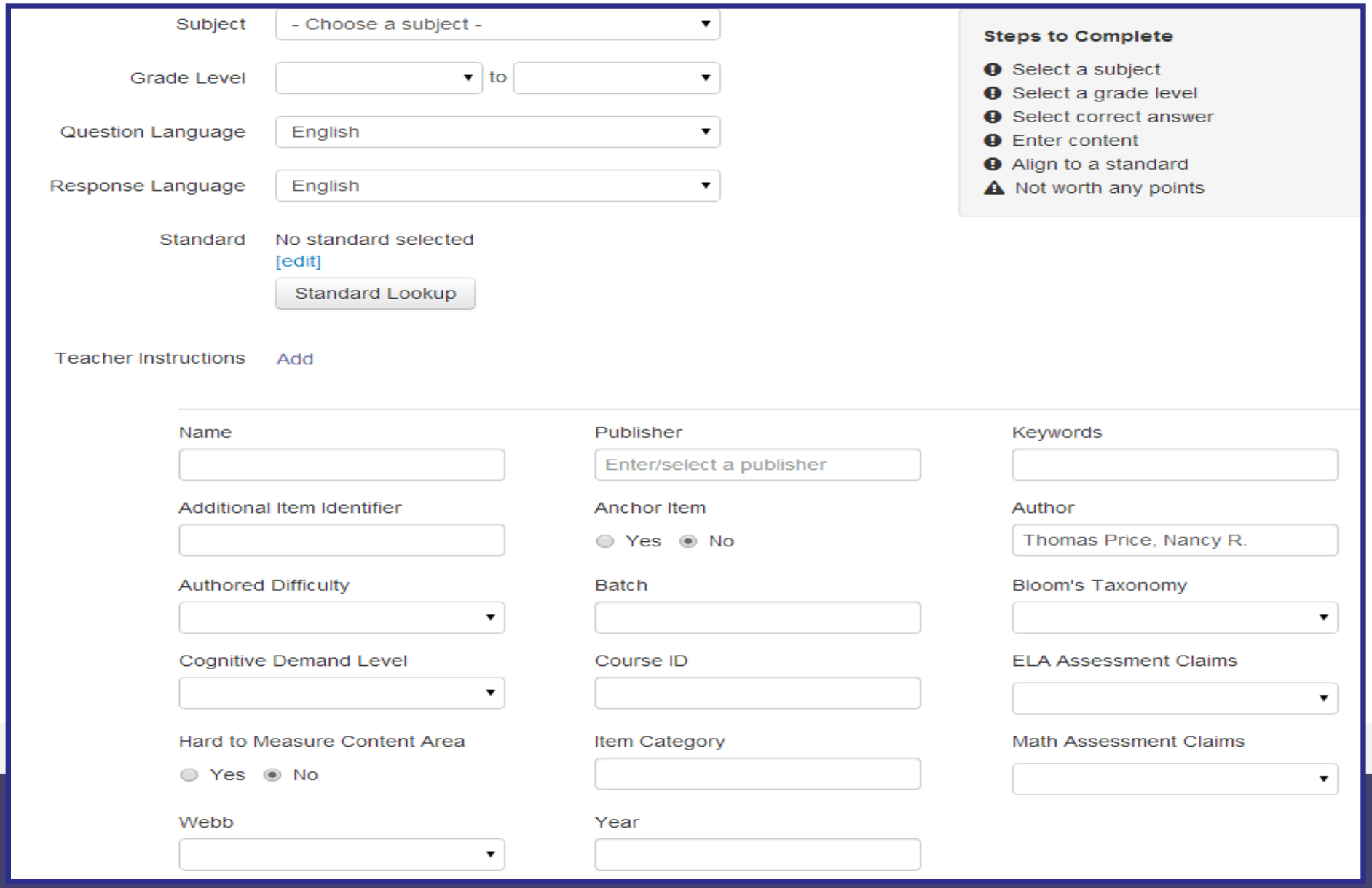
Hot Spot - Multiple Selection

Drag and Drop

Task

Schoolnet Assessment

Meta-data Fields (Item Properties)



Subject - Choose a subject -

Grade Level to

Question Language English

Response Language English

Standard No standard selected [edit]

Standard Lookup

Teacher Instructions Add

Steps to Complete

- Select a subject
- Select a grade level
- Select correct answer
- Enter content
- Align to a standard
- Not worth any points

Name

Publisher Enter/select a publisher

Keywords

Additional Item Identifier

Anchor Item Yes No

Author Thomas Price, Nancy R.

Authored Difficulty

Batch

Bloom's Taxonomy

Cognitive Demand Level

Course ID

ELA Assessment Claims

Hard to Measure Content Area Yes No

Item Category

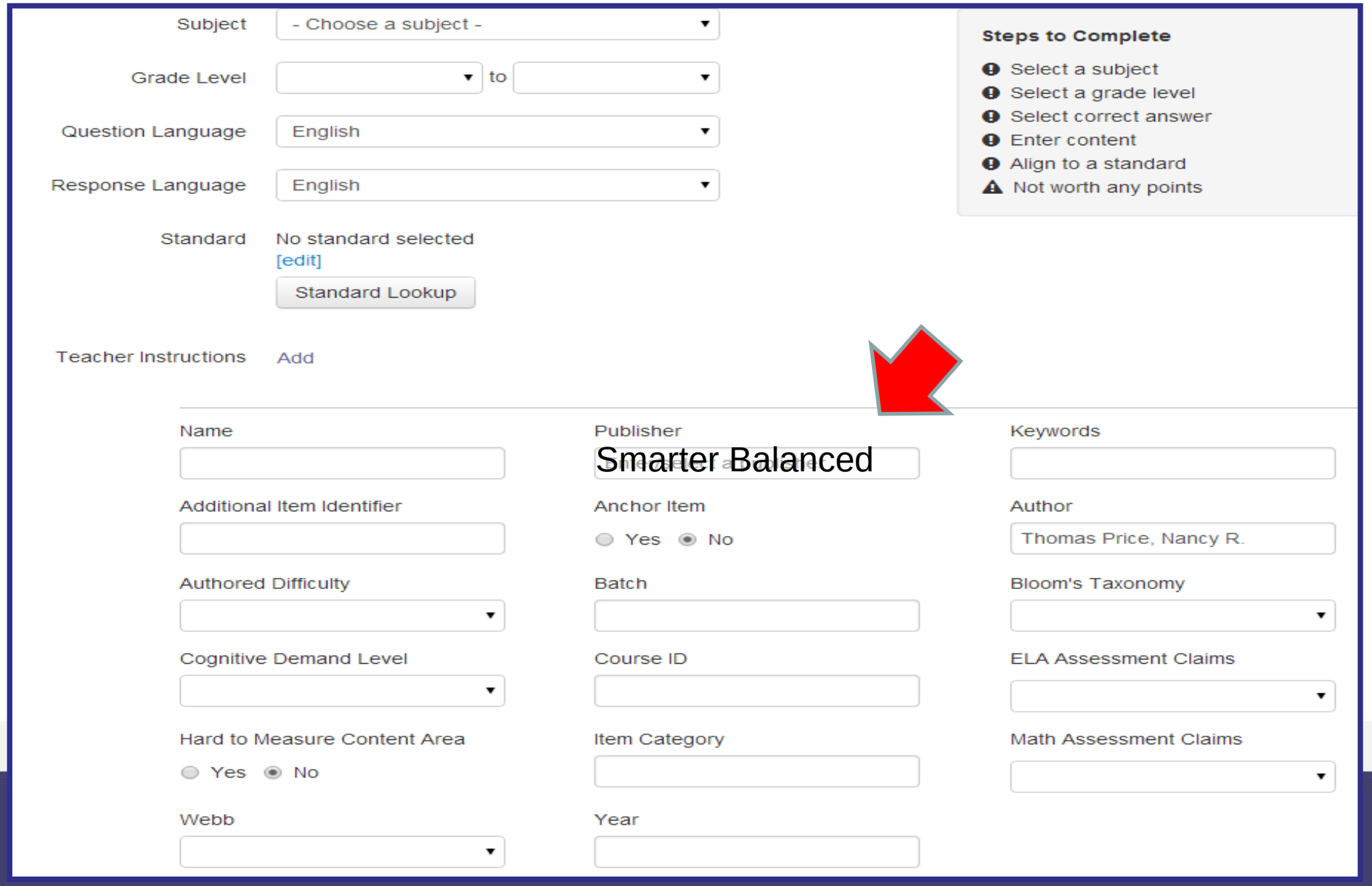
Math Assessment Claims

Webb

Year

Schoolnet Assessment

Smarter Balanced Authored Items



Schoolnet Assessment

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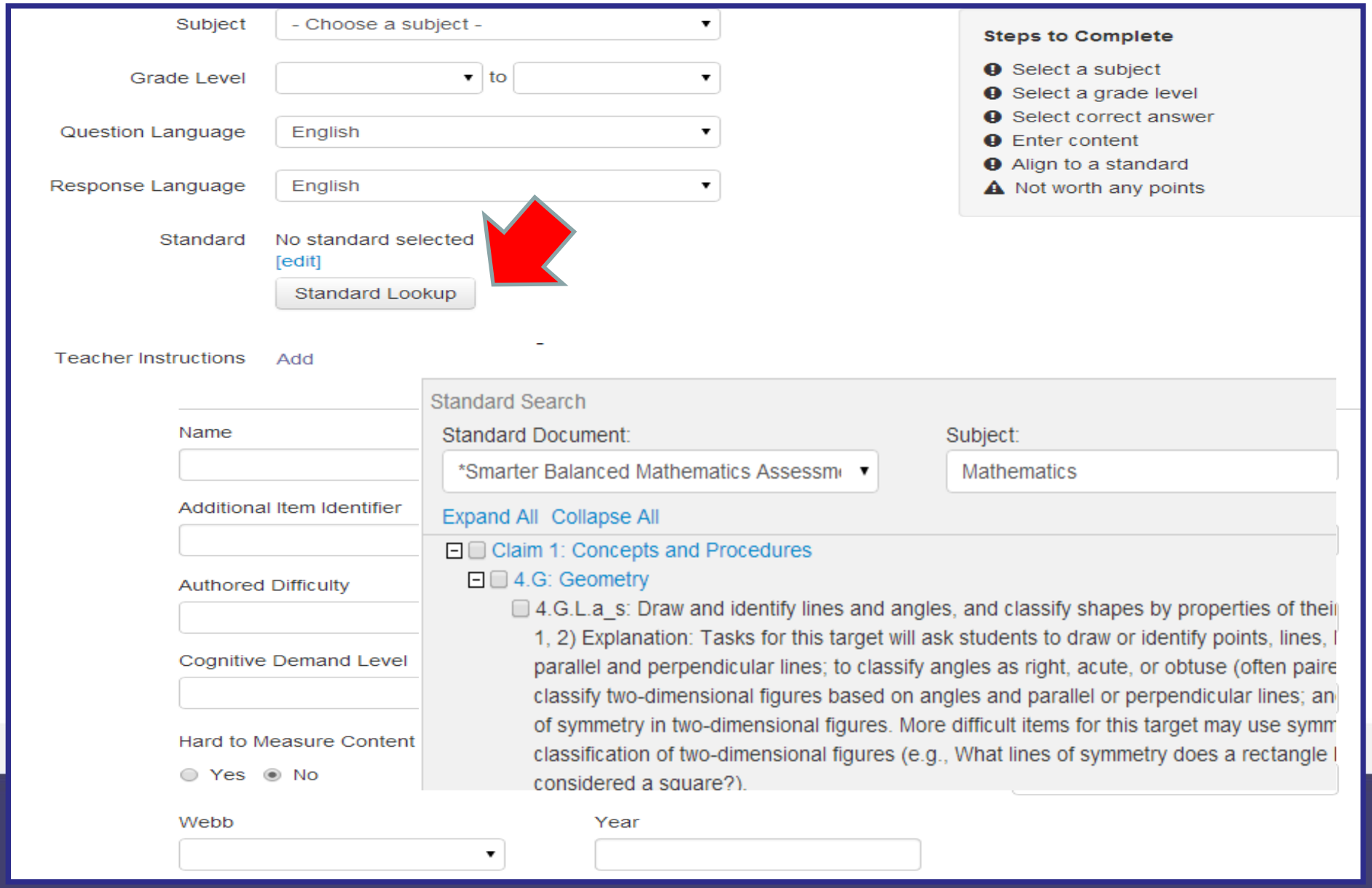
Schoolnet Assessment

Assessment Targets



What's Next?

- NOW! Option for districts to add district authored Items for $$
- NOW! Professional Development Opportunities in all areas of assessment and Schoolnet
- Digital Library Release April 2014
- Training on Digital Library 2014-2015
- Additional opportunities for teachers to author items
- District participation in the Idaho Formative Assessment Program Project
- Schoolnet Enhancements

Contact Information

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- Coordinator of Formative and Interim Assessment
  - nthomasprice@sde.idaho.gov